

# Capacity building in EcoHealth: Experiences and Evaluation of Training Using a *Learning By Doing* Approach, Within Academic and Non-Academic Contexts

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\*Ecosystem Approaches to the  
Better Management of Zoonotic  
Emerging Infectious Diseases in  
SE Asia



**IDRC**

**CRDI**

**Canada**

International Development Research Centre  
Centre de recherches pour le développement international

# Outline of talk

- EcoHealth, OneHealth and 'OneHealth versus EcoHealth'
- IDRC – EcoHealth programmes in SE Asia
- Objectives of EcoZD: *learning by doing*; much responsibility given to local partners
- Team formation; planning & implementing research
- I won't be talking about the research results/outputs – but focusing on the learning & experiences among the researchers
- Need for sustainable local training resource
- Measuring *impact*



# Integrative Health

- Vets & Medics only part of OneHealth
- Commitment: Vets>>>Medics (though not always so – Virchow & Osler)
- Neither One Health & Ecosystem Health (EcoHealth/Eco-Bio-Social) have 'strict' standardized definitions; various interpretations & language issues



# Broader thinking - OneHealth

- One Health is the collaborative effort of multiple disciplines working locally, nationally, and globally, to address critical challenges and attain optimal health for people, domestic animals, wildlife, and our environment

One Health Commission (<http://www.onehealthcommission.org/> )

- The One Health concept is a worldwide strategy for expanding interdisciplinary collaborations and communications in all aspects of health care for humans and animals. One Health Initiative (<http://onehealthinitiative.com/>)

# Broader thinking - EcoHealth

- Ecosystem approaches to public health issues **acknowledge the complex, systemic nature of public health and environmental issues**, and the **inadequacy of conventional methodologies** for dealing with them. **David Walter-Toews, University of Guelph**
- The Ecohealth approach focuses above all on the place of human beings within their environment. It recognizes that there are **inextricable links between humans and their biophysical, social, and economic environments**, and that **these links** are **reflected** in a population's state of **health**. **International Development Research Centre (IDRC)**
- EcoHealth is an emerging field of study researching **how changes in the earth's ecosystems affect human health**. It has many prospects. EcoHealth examines changes in the biological, physical, social and economic environments and relates these changes to human health. **Wikipedia.**
- 6 pillars: transdisciplinarity; equity; participation; sustainability; knowledge to action;

## Compare / Contrast

- Definitions open to debate: range from quite rigid to very flexible; issues of branding
- **One-Health** – biomedical focus /expertise: human + animal + wildlife;
- **One-Health**: focus on communicable diseases
- **One-Health**: operational / strategy
- **EcoHealth**: environment & socio-economic aspects – pioneered outside 'traditional' health
- **EcoHealth**: communicable & non-communicable diseases (dioxin; heavy metal toxicity)
- **Eco-Health**: academic / research / complexity

# Inter-connectivity of EcoHealth

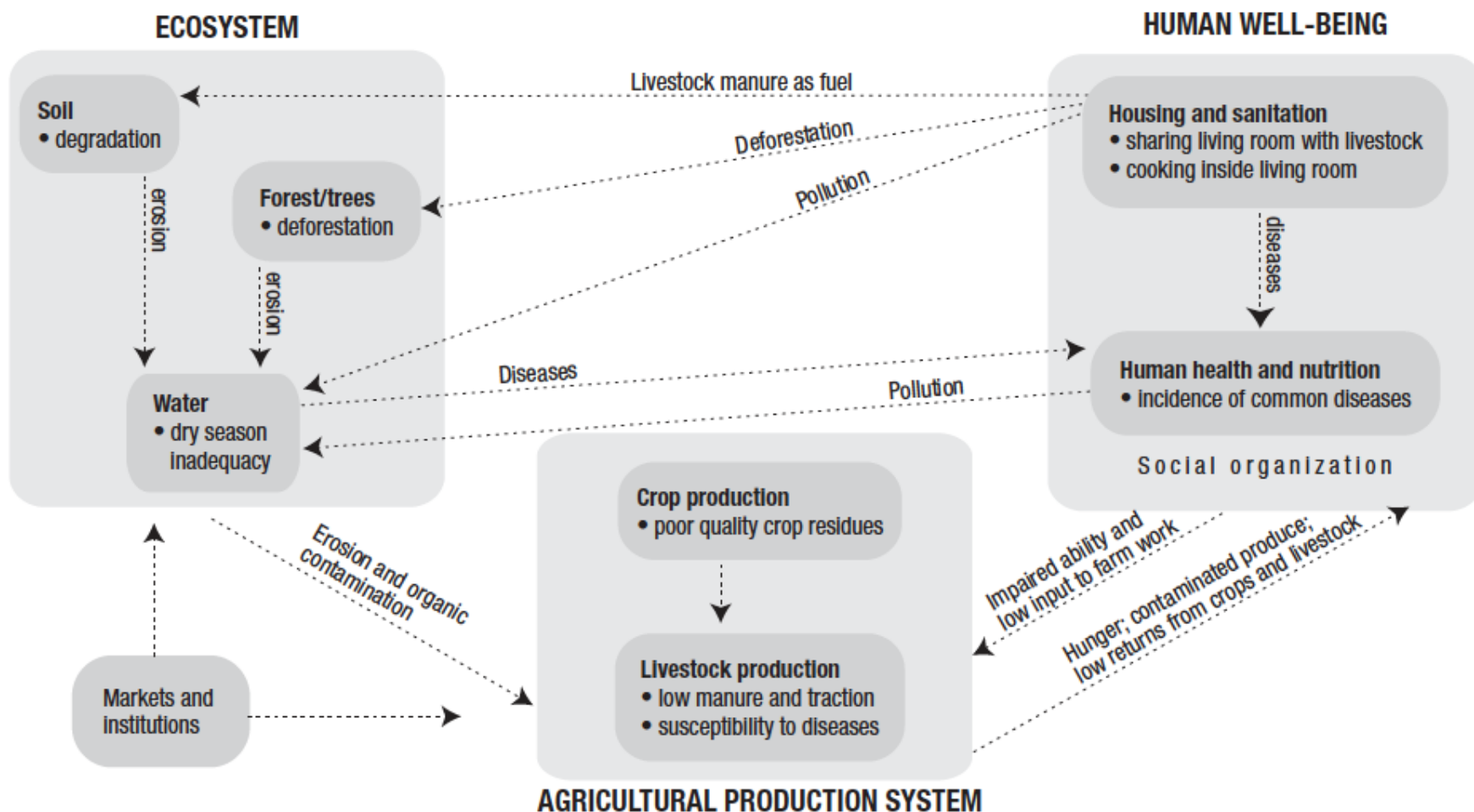
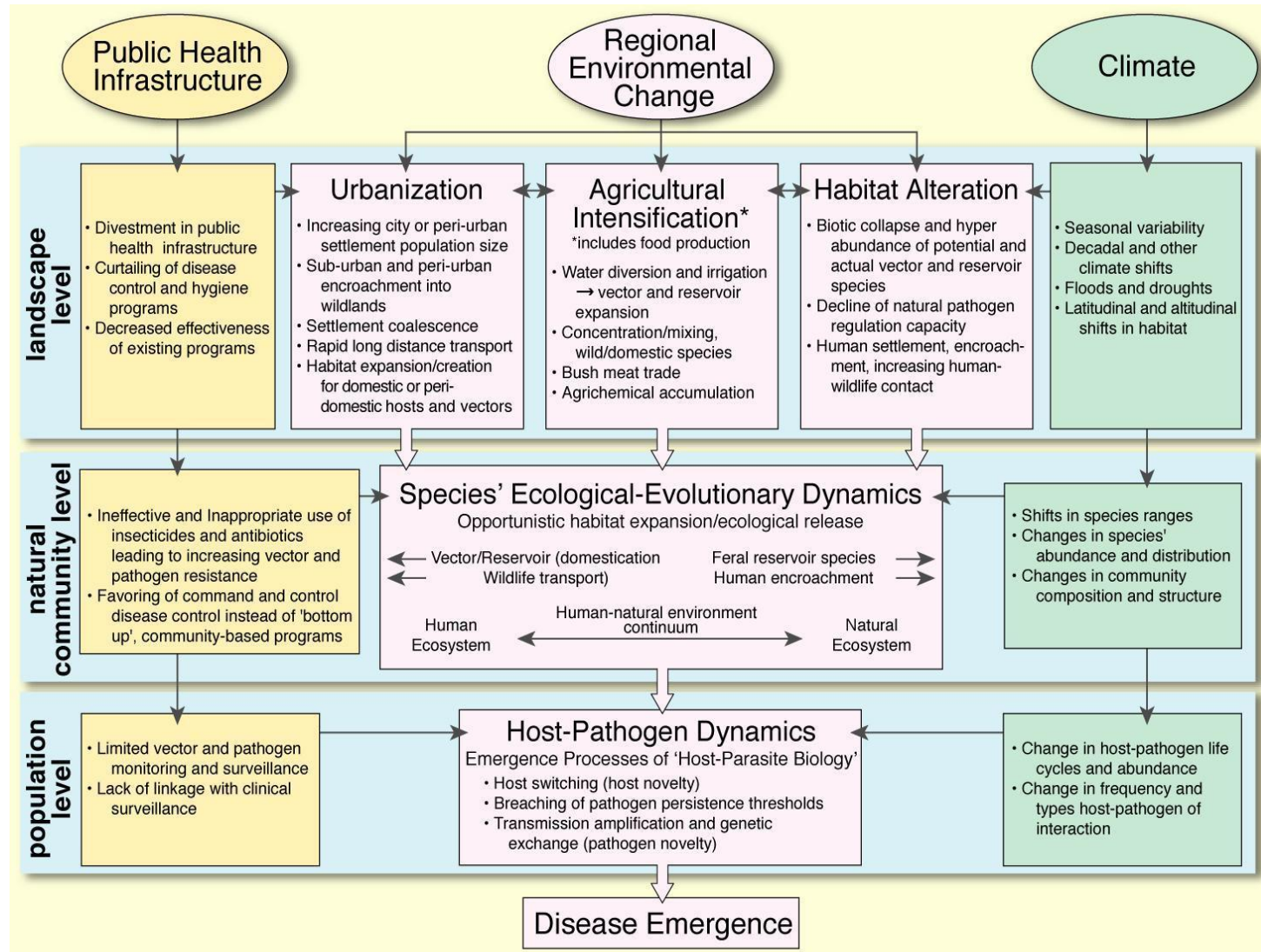


Figure 2. Human well-being in Yubdo-Lagabato, Ethiopia, is closely linked to the condition of agroecological system (adapted from ILRI 2001).

# Inter-connectivity of EcoHealth





# Compare / Contrast

## Eco Health

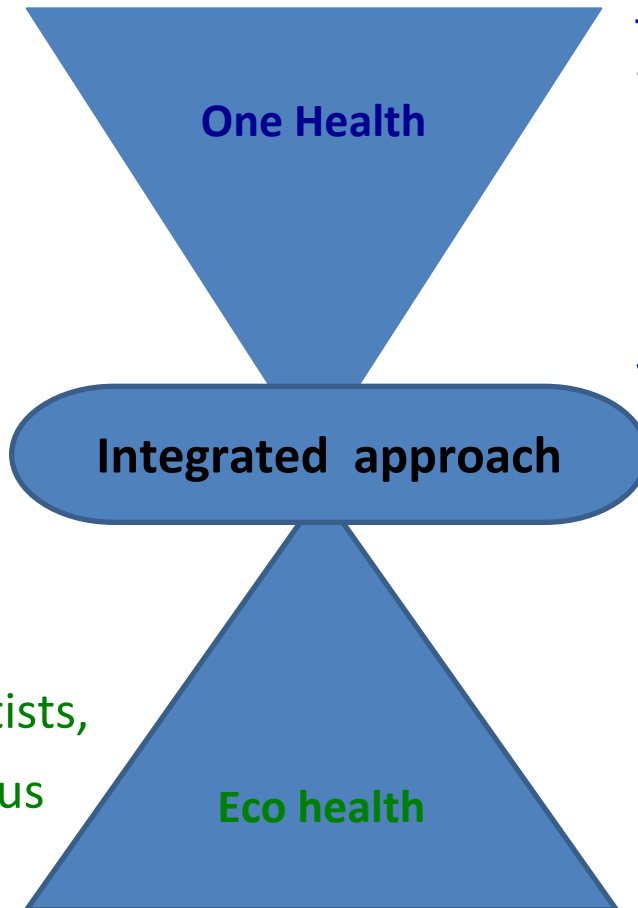
Complexity focus

System thinking

Pioneered by IDRC

‘Bottom Up’

Vets, Medics,  
epidemiologists,  
ecologists, social scientists,  
philosophers, indigenous  
perspectives, etc.



## One Health

Schwabe's One Medicine

One world/One Medicine

More quantitative

Veterinarians, medics, some  
ecologists

Currently institutionalized

Rather 'Top down'

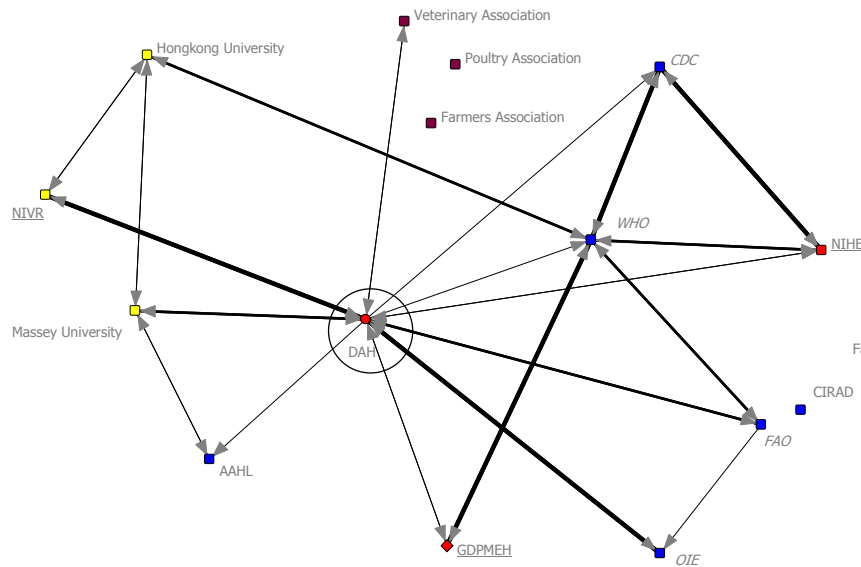
# EcoZD: Project Locations

## Ecosystem Approaches to the Better Management of Zoonotic Emerging Infectious Diseases in the Southeast Asia Region

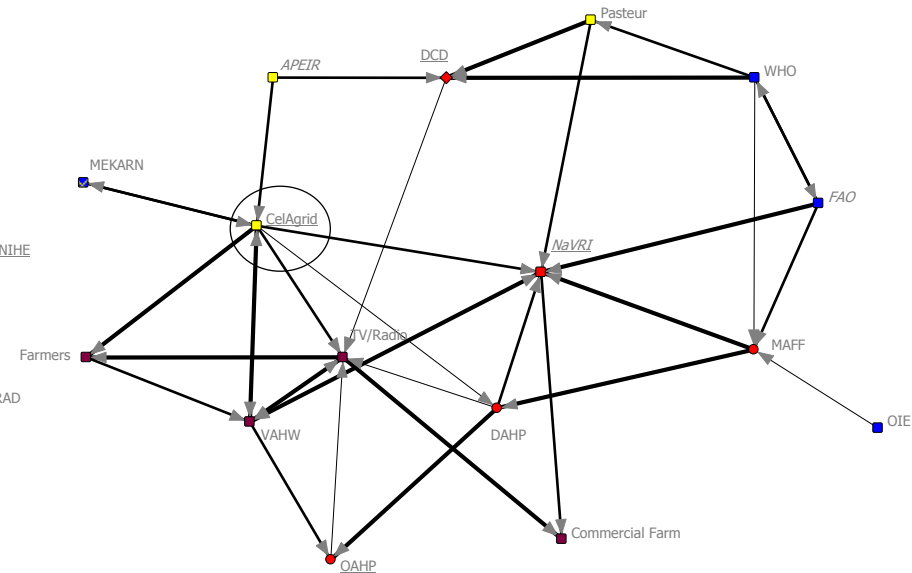


Other IDRC initiatives in SE Asia :APEIR; BECA; EcoEID; FBI

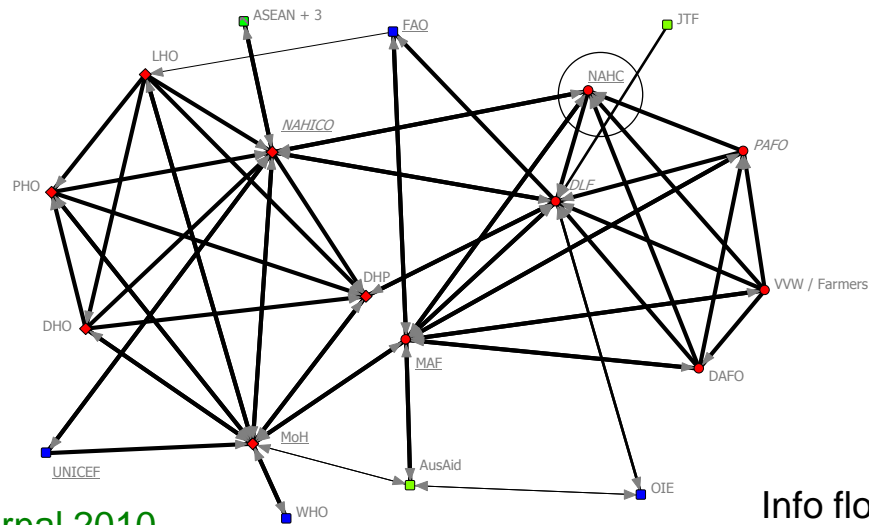
# Scoping Study



Info flows: DAH, VietNam



Info flows: CelAgrid, Cambodia



Info flows: NAHC, LaoPDR



# Step-by-Step

- Identifying individuals/institutions
- Choosing/conceptualise a research topic (priority zoonoses, EH approach, all team members could contribute)
- Training needs: EcoHealth training; proposal write-shop; data analysis; M&E; PRA (2D)
- Research contracts, work-plans & budgets
- Field Work
- Data analysis
- Dissemination to communities
- Policy Engagement
- Peer-reviewed journals



# The 'Högertrafikomläggningen' period

**Högertrafikomläggningen, the day where traffic in Sweden switched from the left to the right side of the road 1967**



Acceptable concept of *learning by doing wrong!*

# Challenges & Solutions

## Challenges

- Accepting novel 'EcoHealth' paradigm and fostering trans-disciplinary collaboration (some countries rigid mechanism including financial mechanisms)
- Limited capacity within disciplines eg proposal writing, epidemiology, dissemination (journal articles, policy, IEC)
- Competition with other projects/initiatives/'paradigm (One Health)
- Sustainability of EcoHealth (One Health) approach

## Solutions

5 year project cycle assisted, *learning by doing* approach gives first-hand experience using country priorities not donor ones

Plans for all countries to disseminate approach and findings to research community, policy makers and communities

Mentoring by ILRI researchers & technical experts provided real-time support according to needs; EcoHealth(One Health) Resource Centres for regional training and advocacy

Teams/members were encouraged to be part of other initiatives; some team members drafted & submitted multi-country proposal

Ownership by teams: they chose the priority and conducted the research

Further funding cycle(s) sought: 10+ years

## Challenges

- Lingua franca in SE Asia
- HR supply/demand;
- interest/motivation mainly limited to fieldwork
- EH 'Branding'



## Zoonotic diarrhoea in rural communities

- Coordination by NGO (CelAgrid)
- Use of participatory tools (MoH)
- Combined fieldwork





# Brucellosis

- Emerging disease in southern China (versus highly endemic in North)
- Coordination by YAGAS
- Novel use of participatory tools
- Combined dissemination at national level



## Rabies in Bali

- Ecological focus:
  - Behaviour
  - Demography
  - Fecundity
  - Socio-cultural
- Village Cadre training
- Education & awareness



# Priority Pig Zoonoses

- 5 zoonoses: HEV JEV Erysipelas; Taenia/cysticercosis; trichinellosis
- 3 non-zoonoses: FMD PRRS CSF
- Development of existing MoH/MAF partnership





## Small-scale Poultry slaughterhouse hygiene

- Engage community
- Discuss cost-benefits
- Policy engagement at central level (DLD)



# Leptospirosis – pigs and people

- First joint MoH/DAH activity with joint fieldwork
- Participatory tools applied
- Behaviour change in the researchers!



## Chiang Mai & Gadjah Mada Universities

- Academic environment
  - Aim : under- & post- grad
- Multi-faculty training
- Trainers for external courses
- Multi-faculty research
- Needs capacity building /ToT approach
- EH manuals
- Future OH/EH resource for the SE Asia region





# Measuring Learning by Doing

**Combine participatory self-assessment of Outcome Mapping & assessment of research project management for adoption of EcoHealth principles (EcoHealth Uptake)**

## Outcome Mapping

- Construct team's intentional outreach & outcomes
- Spur organizational learning via reflection on team's outreach experiences
- Record, analyze, & transform team's learning for practice/policy engagement

## EcoHealth Uptake

- Identify management factors for successful team adoption of EcoHealth
- Harness team's adoption of management factors for EcoHealth capacity & institution building
- Observe & record adoption process

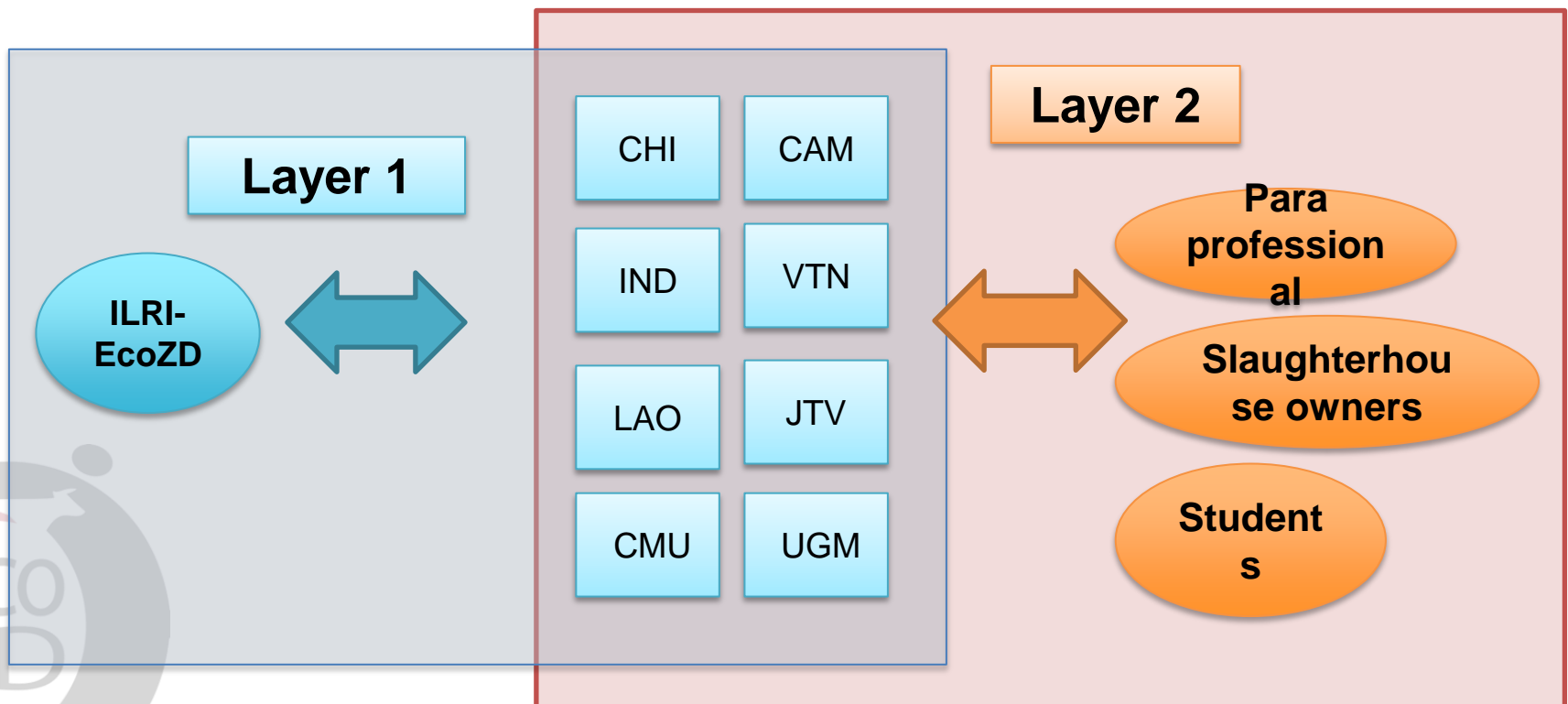


# The Process of Measuring Outcomes

## A Two-layer process following Outcome Mapping methodology

**Layer 1** measures knowledge, attitude, practices (KAP) changes of country teams

**Layer 2** measures KAP changes of targeted stakeholders





# Assessing Outcomes

## Layer 1 & Layer 2 Progress Indicators

Key themes of Progress Indicators:

### Layer 1: EcoZD – Teams

- Understanding and applying EcoHealth principles.
- Communicating research findings.
- Networking & policy engagement.

### Layer 2: Teams – Boundary Partners

- BPs' improved understanding/ specific knowledge.
- BPs' changes in practices.
- BPs' communication of particular knowledge/ practices to communities.



# EcoHealth Uptake Assessment – Adoption Factors & Dynamics

## Factors for Successful Uptake of EcoHealth by a Research Team

Managing knowledge exchange

for transdisciplinary collaboration/learning & participatory decision-making

Managing use of social science

findings + for systems thinking via synthetic interpretation of research team's learning from outreach/engagement

Managing research administration

time & resource allocation for experimenting with EcoHealth innovations

Managing organizational culture & host institute norms

for institutionalizing integrative approach - re-tooling structures & habits to integrate EcoHealth principles

Managing expectations

with for potential impacts - matching research project objectives intentional outcomes to mitigate costs and capture benefits + added value of EcoHealth



# EcoZD Project

For more information about the EcoZD project, please visit: [www.ilri.org/ecozd](http://www.ilri.org/ecozd) <http://ecozd.wikispaces.com/>

[www.ilriasia.wordpress.com/tag/ecozd](http://www.ilriasia.wordpress.com/tag/ecozd)



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